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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/513,129	02/25/2000	Keisuke Yamamoto	35.C14299	6645

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EXAMINER

VO, TUYET THI

ART UNIT

PAPER NUMBER

2821

DATE MAILED: 09/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n N .

09/513,129

Applicant(s)

YAMAMOTO ET AL.

Examin r

Tuyet Vo

Art Unit

2821

-- The MAILING DATE f this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,5,6 and 9-15 is/are allowed.
- 6) ☒ Claim(s) 18-20 is/are rejected.
- 7) ☒ Claim(s) 3,4,7,8,16 and 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 29.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Specification***

The specification has been checked to the extent necessary to determine the presence of all possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Objections***

1. Claims 3, 4, 7, 8, 16, 17, 19 and 20 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. For example, claim 3 depends on claims 1 or 2 as stated on line 2 while a recitation of "An electron source comprising a plurality of electron-emitting devices" in preamble shows claim 3 appeared as an independent claim.
2. Confusing scenarios as noted above for claim 3 is applied similarly for claims 4, 7, 8, 16, 17, 19 and 20 as well.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claims 18 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Geis et al. (US Pat. 5,728,435), hereinafter Geis.

Regarding claim 18, Geis discloses an electron-emitting device (Figs. 1 and 2) comprising:

a carbon film along surface 14/16 of Figures 1 and 2 composed chiefly of carbon including a graphite structure (col. 4, lines 15-31) and an cathode (10) electrically connected to the carbon film, wherein lithium contains in the carbon film (col. 4, lines 32-39).

Regarding claim 19, Geis further discloses the electron-emitting device comprising a substrate (42) having electron emitting devices (40) deposited thereon, wherein wirings connected to the electron devices (Fig. 4).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Geis as applied to claims 18 and 19 above, and further in view of Suzuki et al.(US Pat. 4,954,744), hereinafter Suzuki.

Geis discloses substantially the claimed invention as noted above except for the electron-emitting device comprising a phosphor.

Suzuki discloses electronic-emitting device having a phosphor layer (8) for emitting visible light.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the phosphor substance as taught by Suzuki into Takeda electron

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device in order to achieve a color image with a regulation of the emitting light upon a rate of the electric beam.

***Allowable Subject Matter***

5. Claims 1, 2, 5, 6 and 9-15 are allowed.

6. The following is an examiner's statement of reasons for allowance: the prior art record fails to establish an electron-emitting device having a pair of electric conductors and a pair of films composed chiefly of carbon constructed in a manner in that the films having higher resistance when contain therein one or more kinds of elements selected from the group of lithium, potassium, sodium, calcium, strontium and barium with less than or equal to 5 mol%, or higher or equal to 1 mol% in terms of the percentage to carbon as required in claims 1, 2, 5, 6 and 9-15, so as to avoid deform or damage to the films when conducting the high current through, thereby, bringing about the state in which electron emission occurs evenly.

The dependent claims are also allowed for at least the reason above.

***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuyet Vo whose telephone number is 703 306 5497. The examiner can normally be reached on Mon-Fri.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 703 308 4856. The fax phone numbers for the organization where this application or proceeding is assigned are 703 308 7722 for regular communications and 703 308 7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.

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A handwritten signature in black ink, appearing to read 'Tuyet Vo', is written over a horizontal line.

Tuyet Vo

September 14, 2003